

Claim 1-22 stand rejected as anticipated by both U.S. Pat. No. 4,309,112 to Ashley and U.S. Pat. No. 6,306,577 to Tamura. The applicant respectfully traverses the Examiner's rejections for the following reasons.

First, independent claim 1 has been amended to include the limitation of now canceled claim 5; i.e., that the control means includes "a memory provided with a look-up table relating a time required for performing a test on the ampoule in said apparatus and a biological activity in the ampoule at a start of the test." The look-up table provides an immediate indication of biological activity based upon time without requiring any system capable of a calculation beyond the total time for the light level to drop a predetermined percentage. Neither Ashley nor Tamura disclose a device with a memory that has a look-up table for this purpose. More particularly, Tamura states that an additional component may be added to calculate "the regression formula that represents the relationship between the concentration of the reference material and the time required for the reference material to change . . . ." Col. 7, lines 49-56. As such, Tamura contemplates only a much more complex and thus less desirable system. Furthermore, Ashley requires comparison to a known sample and not a look-up table to determine a concentration of a chemical substance in a biological fluid. In addition, there is no indication that the Ashley system

is used to measure biological activity, only concentration of a chemical substance.

Second, Ashley and Tamura fail to teach or suggest limitations in claims dependent on claim 1. For example, with respect to claim 10, the cited references fail to teach or suggest a light source and detector located on axially opposite sides of an ampoule receptacle. With respect to claim 11, the cited references fail to teach or suggest a cover for the ampoule receptacle that completely shields the receptacle from ambient light. More particularly, with respect to claims 10 and 11, Tamura is silent and fails to provide any relevant teaching or suggestion, while Ashley clearly shows an uncovered open receptacle (Fig. 1) where the light and detector are on diametrically opposite sides of the ampoule (Fig. 2). Moreover, with respect to claim 13, neither reference teaches or suggests the use of a green LED light source and, with respect to claim 14, one that specifically emits light at approximately 565 nm.

Third, independent claim 15 has been amended to include the limitation from now canceled claim 16 that "recording a maximum intensity of light transmitted through an ampoule" is performed "by transmitting light at a predetermined wavelength at regular intervals and identifying when said intensity of light transmitted through said ampoule stops increasing." Both Ashley and Tamura

fail to provide any teaching or suggestion with respect to when light transmission stops increasing. Rather, both are only concerned with when light transmission decreases by a certain amount. However, it is recognized by the inventors, that "light transmission through the ampoule may initially increase, as small bubbles rise out and larger bubbles break at the surface."

(Specification at page 16, lines 3-5) Ashley and Tamura fail to recognize this, and certainly fail to set a maximum amount of light transmission relative to when light transmission stops increasing.

Fourth, Ashley and Tamura also fail to teach limitations in several claims dependent on claim 15. For example, claim 17 requires that the wavelength is 565 nm, claim 18 requires axial light transmission through the ampoule, and claim 19 requires referencing a look-up table in a memory. Each of these is not taught or suggested for the reasons provided above with respect to claims 14, 10 and 1.

For the foregoing reasons, claims 1-4, 6-15 and 17-22 are allowable over the art of record.

New claims 23-26 have been added and correspond to claims 10, 11, 18 and 19 being rewritten in independent form. For the

reasons provided above with respect to claim 10, 11, 18 and 19, the new independent claims should likewise be allowable.

As required, a marked up copy of amended paragraphs in the Specification and/or the rewritten claims is attached hereto.

In light of all of the above, it is submitted that the claims are in order for allowance, and prompt allowance is earnestly requested. Should any issues remain outstanding, the Examiner is invited to call the undersigned attorney of record so that the case may proceed expeditiously to allowance.

Respectfully submitted,



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## MARKED-UP CLAIMS

### In the Claims:

Please rewrite claims 1 and 15, as follows:

1. (rewritten) A light analyzer apparatus for use with an ampoule, comprising:

- a) a housing having a receptacle which receives the ampoule;
- b) a light source which transmits light at a first intensity level into said receptacle;
- c) a detector which detects at least some of said light transmitted into said receptacle; and
- d) a control means for automatically determining when said light detected is at a predetermined percentage of said first intensity level of said light, said control means including a memory provided with a look-up table relating a time required for performing a test on the ampoule in said apparatus and a biological activity in the ampoule at a start of the test.

15. (rewritten) A method of analyzing contents of an ampoule, the ampoule containing a sample and a reagent which changes color when a predetermined level of biological activity is present in the sample, said method comprising:

- a) recording a maximum intensity of light transmitted through said ampoule by transmitting light at a predetermined wavelength at regular intervals and identifying when said intensity of light transmitted through said ampoule stops increasing;

- b) identifying a first time;
- c) transmitting light at [a] the predetermined wavelength through said ampoule;
- d) identifying an end time relative to said first time at which an intensity of said light transmitted at said predetermined wavelength through the ampoule is at a predetermined percentage of said maximum intensity of light; and
- e) automatically determining from said end time a level of biological activity present in the sample at said first time.